Chemical and Biological Defense Information Analysis Center

CBIAC

Serving the CB Defense Community

NEWSLETTER

Summer-1996 Vol. 2, No. 3

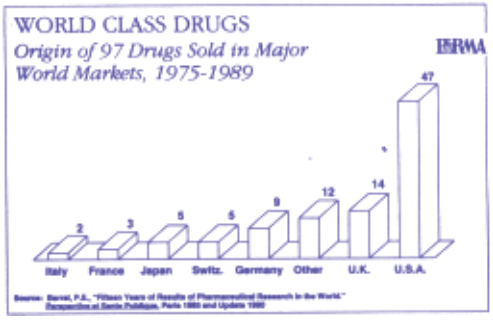
A U.S. Department of Defense Information Analysis Center (IAC) sponsored by the Defense Technical Information Center (DTIC)

STRENGTHENING THE BIOLOGICAL WEAPONS CONVENTION: AN INDUSTRIAL PERSPECTIVE

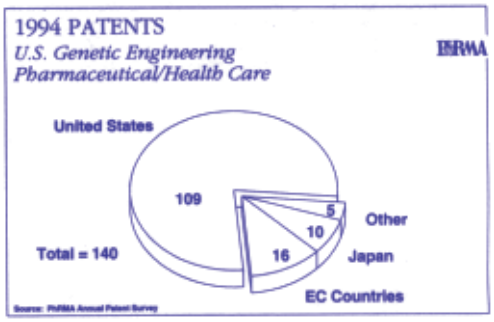
By Alan E. Holmberg and Alan Goldhammer

Strengthening the 1972 Biological Weapons Convention (BWC) is a significant interest of the biotechnology and pharmaceutical industries. Industry opposes the use of biological weapons against crops, animals and people. The BWC poses significantly different concerns for industry relative to other arms control treaties such as the Chemical Weapons Convention and the Nuclear Non-proliferation Treaty. Small samples of a microorganism can be grown under relatively simple conditions to rapidly produce large volumes of a desired product. Since growing the particular strain of microorganism can be virtually the entire "production process," strict efforts are taken by industry to assure the protection of proprietary microorganisms.

Fermentation processes enable industry to manufacture a wide variety of products. Antibiotics, protein therapeutics, and vaccines are end-products directly consumed. Others such as fine chemicals and processing enzymes are intermediates used in the manufacture of other consumer products. Common to all these processes is the reliance on proprietary manufacturing processes including the development of improved microbial strains used during the fermentation. Because of this, strict efforts are undertaken to protect proprietary information. Production microorganisms are regarded as trade secrets and in many cases not patented. Access to manufacturing as well as research facilities is severely limited. Facility tours, where permitted, are controlled. The sensitivity to loss of proprietary information is much greater in the pharmaceutical and biotechnology industries than in the basic and fine chemical production industries where numerous non-proprietary intermediates and catalysts are often used. Any implementation of a declaration and verification protocol under the BWC must protect proprietary information for the pharmaceutical and biotechnology industries where the U.S. is the undisputed world-leader.



Current discussions are moving towards developing a set of measures that, if implemented, will address significant concerns about the proliferation of biological weapons. However, total reliance on any set of measures is complicated because of the potential dual-use nature of many fermentation facilities. While no accurate figure exists, the total number of fermentation facilities may easily reach into the thousands if facilities with a batch capacity of greater than 200 liters are considered. (200 liter capacity was chosen only to demonstrate that there are numerous facilities of this size and above and is not intended to serve as an indication of the minimum vessel size for agent manufacture.) This would include industrial facilities producing biomedical products (antibiotics, vaccines, protein therapeutics), chemicals (ethanol, citric acid, amino acids), foods (yogurt, yeast), beverages (beer, wine, distilled spirits), agricultural products (nitrogen fixing bacteria, biopesticides) along with a large number of industrial and university research and development facilities.



Given the large number of facilities and the potential for dual use, any comprehensive

See "Strengthening The Biological Weapons Convention: An Industrial Perspective"
Continued on Page 10

On the Inside

THOUGHTS FROM THE PENTAGON

Dr. Ted Prociv, Deputy Assistant to the Secretary of Defense (Chemical and Biological Matters)

By Dr. T ed Prociv

This is the fourth of our quarterly updates designed to keep the Chemical and Biological Defense (CBD) community up to date with activities of interest in the Pentagon. Our office is the focal point for the Office of the Secretary of Defense (OSD) staff for three major areas of importance; the DoD Chemical and Biological Defense Program, the DoD Chemical Demilitarization Program, and the Chemical Weapons (CW) and Biological Weapons (BW) Arms Control Programs. Biological Defense is managed for us by the Joint Program Office (JPO). This article gives a brief overview of what the Joint Program Office is doing for the warfighters in the areas of producing Biological Detectors and FDA approved Vaccines.

BW DEFENSE PROGRAM:

In 1995, the JPO received concurrence from all of the services on the acquisition strategy for a new Joint Biological Point Detection System (JBPDS). The JBPDS will provide all services a common suite of complementary technologies to detect and identify BW agents in near real time. Not only will this provide a common, verifiable detection capability, it will greatly enhance interoperability, sustainability and maintainability. The services strongly embraced the acquisition strategy presented and the need to migrate away from service unique detection systems to a common suite of complementary technologies, integrated on a service specific platform.

The JPO began a series of Joint Field Trials (JFT) in September, 1996 to assist in the component selection process for the JBPDS. Over 70 different triggers, collectors, detectors and identifiers from the United States, United Kingdom, Canada, France and Germany were tested using simulant agent clouds at Dugway Proving Ground, Utah. The JPO is gearing up to conduct this year's JFT of triggers and collectors in September, followed by laboratory testing of detectors and identifiers in October. The JFT provides the developers an opportunity to gather data on their individual system under realistic field conditions. The results of the JFTs are being used in an Abbreviated Analysis (AA) process managed by the Naval Sea Systems Command. The AA will be made available to the JBPDS contractor when the contract is awarded in October, 1996.

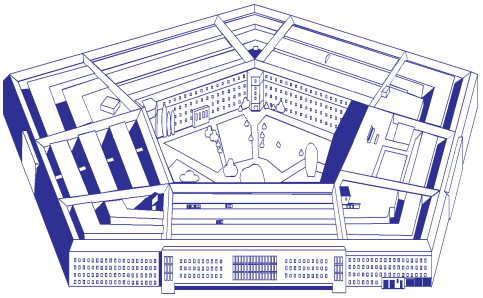
Fielding of the Army's Biological Integrated Detection System (BIDS) and Long Range Biological Stand-off Detection System (LR-BSDS) continues on schedule. The 310th Chemical Company, an Army Reserve Unit assigned to Gadsden, Alabama, will be the U.S.'s first biological detection unit when four reserve platoons and one active platoon are activated in September, 1996. A-state-of-the art training and simulation center, the BIDS Bunker, was dedicated at Fort McClellan, Alabama in April, 1996. This facility combines hands-on operation of individual components with full scale system level mock-ups and a multimedia simulation center.

The Navy continues shipboard installation of the Interim Biological Agent Detector (IBAD). Of the 25 rapid prototype IBAD systems, two have already been installed on ships with an additional four scheduled to be installed in FY96 and the remaining 19 planned to be installed in FY97.

The JPO has been extremely successful in developing an Air Base/Port Bio Detection Advance Concept Technology Demonstration (ACTD). The ACTD will provide a biological detection capability at a Commander-In-Chief (CINC) priority air base or port. The concept will use an array of modified IBADs around the site perimeter linked to the base survival and recovery center to provide a local alarm following a biological attack. Not only will the ACTD provide a detection network, it will also leave behind a concept of operations, dewarning procedures, C^4I connectivity, medical countermeasures, oronasal masks and decontamination procedures. Initial testing of the concept begins in August, 1996 followed by initial fielding of a prototype system in Korea in November, 1996. Both U.S. Central Command (CENTCOM) and U.S. Pacific Command (PACOM) are sponsoring this ACTD.

During Operation Desert Storm, it became apparent that there was a very high threat from biological warfare agents, but that we were severely limited in our capability to develop and produce vaccines needed to protect our warfighters. Several studies were conducted to determine the most cost effective means to pursue vaccine production. In May 1996, the Under Secretary of Defense (Acquisition) approved the Acquisition Strategy for a prime systems contractor. The prime systems contractor will be responsible for the development, production and FDA licensure of biological defense medical products. In January, 1996, the Deputy Secretary of Defense (DEPSECDEF) funded the current Joint Vaccine Acquisition Program (JVAP) and directed that we develop, license and produce a stockpile of vaccines to protect our forces against known BW threat agents.

A draft JVAP Request For Proposal (RFP) was released for industry comments in April, 1996. Comments have been addressed in a revised RFP and it is currently under review within the Pentagon. The JVAP RFP is planned for release in the next 6-8 weeks with a projected contract award date by the third quarter of FY97.



TAT FOCUS

The Standardization of Navy Wear and Fit Evaluations

Battelle Natick Operations (BNO) was awarded CBIAC Technical Area Task 121 (The Standardization of Navy Wear and Fit Evaluations), in support of the Navy Clothing and Textile Research Facility (NCTRF), located at the U.S. Army Research, Development, and Engineering Center in Natick, Massachusetts. NCTRF's mission is to develop protective, dress and utility clothing for the U.S. Navy; this includes everything from the standard dress uniform to the next generation chemical/biological protective clothing.

While NCTRF has enjoyed great success in their research and development of clothing for the Navy, they have been less than fully satisfied with the outcome of many of their wear evaluations of these garments. They have often expended a great deal of time and effort to conduct a wear test, only to find out later that the questions they set out to answer were not adequately addressed in the evaluation. In order to avoid this problem in the future, BNO has been contracted to assist in developing a guide book for project officers that standardizes all wear and fit evaluations for NCTRF.

The principle investigator for this project is Dr. Lisa Stern-Wolfson, who is an experimental psychologist trained in research methodology, test design, and analytical methods. She has been working closely with NCTRF to develop exemplar questionnaires for every type of clothing item they develop (e.g., footwear, handwear, trousers, shirts, coats, etc.). These questionnaires, along with a discussion of basic research principles, will be incorporated into the wear evaluation guide book to assist future Navy investigators in developing valid questionnaires, and scientifically valid evaluations.

The guide book is intended to be comprehensive; it will cover all aspects of testing, from pre-test preparations to data analysis and report writing. With the support of Battelle, NCTRF intends to improve their testing capabilities so that they can continue to develop the highest-quality protective clothing for the U.S. Navy.

LINK YOUR HOMEPAGE TO THE CBIAC!

If your organization works in CB Defense and would like us to provide our www homepage users with a link to your homepage, please e-mail Steven Jones (joness@battelle.org) a brief description of how your organization is involved or related to CB matters along with the URL (web address) for your homepage. The CBIAC will review all submissions and select those which are appropriate. You will be notified of our determination.

REMEMBER!!

The URL address for accessing the CBIAC homepage is:

http://www.battelle.org/cbiac/cbiachp.html

Please visit this site for information on:

- ☞ the CBIAC (General Overview)
- ☞ CBIAC Products
- ☞ Current Awareness Products
- ☞ Inquiry and Referral Services
- ☞ Information Products
- ☞ Technical Area Tasks

Marine Corps Unit Meets the Challenge of Chemical/Biological Terrorism

The Chemical/Biological Incident Response Force (CBIRF) is a special Marine Corps unit that responds to chemical and/or biological terrorist attacks. Soon after becoming Marine Corps commandant last July, General Charles C. Krulak ordered that the unit be formed, hoping to improve the capability of the United States to respond quickly to chemical and biological terrorism attacks such as the one involving the Tokyo subway system in 1995.

The mission of the CBIRF is to provide a rapid response to incidents of chemical and/or biological (CB) terrorism at Navy and State Department facilities worldwide. However, civil authorities could request the services of the CBIRF for incidents occurring at Olympic events or national political arenas. The unit is part of security contingency plans for the Olympic games being held in Atlanta, Georgia this month. As of July 1, the unit had not received orders for the Olympics, but it appears likely that they will be on-site in Georgia rather than on-call from their home base at Camp Lejeune, North Carolina.

General Krulak refers to the CBIRF as a "total force package;" its components provide command and control, security, reconnaisance, decontamination, and medical support, backed by an advisory group comprised of scientists with chemical and biological expertise. On June 15, the CBIRF became an official, permanent Marine unit.

For a more complete story, see C&EN's article by Lois R. Ember entitled, "Marines Offer Rapid Response to Chemical/Biological Terrorism" in the July 1, 1996 issue.

RECENT ACQUISITIONS

The following acquisitions are presently in our collection and may be reviewed at the CBIAC. For further information on how to obtain or review any of the listed acquisitions, please contact Jeanne M. Rosser. The CBIAC is not authorized to distribute the listed acquisitions unless they are documents generated by the CBIAC (i.e., products).

Chemical and Biological Terrorism: The Threat According to the Open Literature.

This document was written by Ron Purver, a strategic analyst at the Canadian Security Intelligence Service and published in June, 1995. The contents include a dissertation on the topics of biological terrorism, chemical terrorism, cb terrorism and more specifically, within each of these categories, information on toxicity, likely agents, defense, incidents of past use or threat, and current trends. A lengthy postscript section addresses the activity of terrorist groups in Japan in relation to the most recent incidents which occurred. The document reviews an extensive array of sources such as television broadcasts, news magazines, books, newspaper articles, and includes a complete reference list. This document is approved for public release, distribution unlimited.

Fifth International Symposium on Protection Against Chemical and Biological Warfare Agents.

The proceedings to the conference held June 11-16, 1995 in Stockholm, Sweden, are published in this book as a supplement which contains presentations, articles and technical data presented at the international symposium. ISSN 1104-9154. This document is approved for public release, distribution unlimited.

Proceedings of the Symposium on Alternatives in the Assessment of Toxicity: Theory and Practice.

The biological and medical community has relied heavily on animal experimentation to gather information; however, the financial cost and animal rights considerations which now enter into the equation have forced an intense search for alternatives. Alternative methods for eye and skin, as well as oral, reproductive, developmental, immunotoxicological and aquatic studies are discussed in this publication. Also included in this document are discussions of validation models. This March 1996 ERDEC report is limited to U.S. government agencies and their contractors.

Proliferation: Threat and Response.

This document, published in April, 1996 by the Office of the Secretary of Defense, outlines the new threat posed by chemical, biological and nuclear weapons. The publication is organized by international regions and includes a section on dangers from terrorism, civil wars, and organized crime. This document is approved for public release, distribution unlimited.

Improved CBIAC Bibliographic Database (CBIAC BD)

- High Speed Search Engine (BASISplus®)
- Advanced Text Retrieval Capability
- Over 18,000 New Citations
- Accessible Via Modem or Internet

The CBIAC BD, formerly known as the CBIAC User Accessible Database (UDB), has been re-engineered to provide the user community with improved search capabilities and performance. Security measures now being installed will allow users to access over 45,000 citations in all CW/CBD subject areas via modem or Internet. To obtain access to the CBIAC BD, you must complete and return a new database application form. Along with your user authorization and password, you will receive the new CBIAC BD User's Manual. For further information or to obtain a database application form, contact Ms. Judith M. Shetterly at (410) 676-9030.

Planning a Conference/ Symposium????

Let the CBIAC provide you with the technical and logistical support you need!

We offer a dedicated staff of technical and administrative personnel trained to support conferences, symposia, and small working group meetings in all areas of Chemical Warfare/Chemical and Biological Defense. Currently the CBIAC supports several annual conferences, workshops, and symposia, both classified and unclassified, in the U.S. and abroad. The CBIAC offers the following support:

- ❖ Identification of Subject Matter Experts
- ❖ Solicitation of Keynote Speakers
- ❖ Mailing List consisting of over 5,000 names (national and international) within the CB Community
- ❖ Logistical/Administrative Support (invitation packages, technical agendas, correspondence packages, security issues, etc.)
- ❖ Technical Proceedings
- ❖ And Much More!

For further information contact:
Mr. Francis T. Crimmins
Tel: (410) 676-9030
Fax: (410) 676-9703
E-Mail: crimmins@battelle.org

ONGOING AND RECENT ACTIVITIES

Current Awareness

- Ms. Jeanne Rosser attended the Defense Nuclear Agency (DNA)'s 5th Annual International Conference on Controlling Arms on June 3-6, 1996, held at the Waterside Marriot Hotel and Conference Center in Norfolk, Virginia. The CBIAC featured a display that highlighted DNA sponsored Technical Area Tasks. DNA is now the Defense Special Weapons Agency. For further details, see Meeting Highlights, page 7.

- You can request to have your name added to the CBIAC Newsletter mailing list by accessing the CBIAC home page, and completing the proper section of our new interactive User's Survey. Along with a new guest book, the interactive form is the latest feature added to our home page. See our ad on page 3 for the URL and details about the CBIAC home page.

Information Acquisition and Processing

- Documents in the area of CW treaty technologies, BW treaty, CB terrorism, CB emergency planning, and chemical protection were added to the CBIAC collection during the third quarter, FY96.

Inquiry and Referral Services

- Last quarter the CBIAC received 158 inquiries. Over 12.5 % of the inquiries for last quarter were related to NBC Survivability. Warning and Identification and Chemical and Physical Properties requests each accounted for more than 8.5% of the total inquiries received. The chart shows the percentages for inquiry and referrals posed by various agencies for third quarter, FY 96.

Products

- A revised PRODUCTS LIST is included as an insert in this issue. A new critical review entitled, A Critical Review of Sources of Chemical and Physical Properties of Militarily Significant Compounds is now available, along with several new bibliographies, including the latest one, entitled, Chemical and Biological Terrorism. The PRODUCTS LIST includes price and distribution limitations.

Technical Area Tasks (TATs)

- Since the last newsletter, twelve new tasks were awarded, effort was added to 28 ongoing tasks and eleven tasks have been completed. As of June 28,1996, 85 TATs have been awarded and work has been added to 90 tasks. Total value of TATs awarded is over $25.5 million dollars.

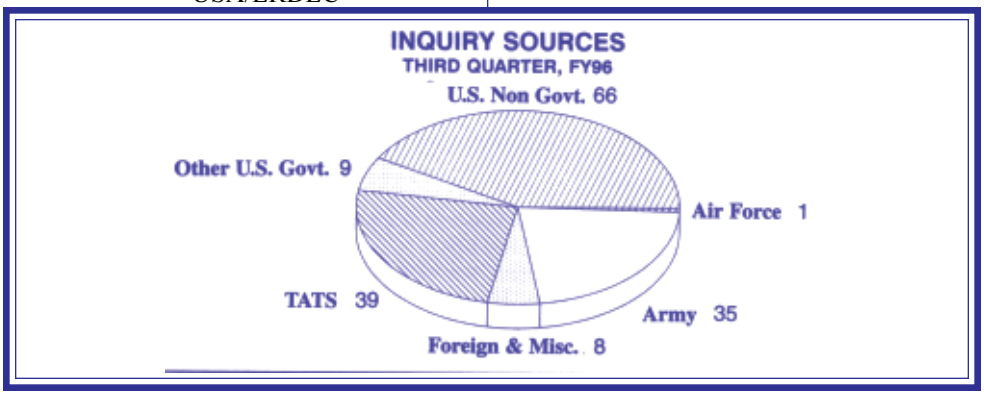
- Do not hesitate to contact Ms. Judith M. Shetterly at the CBIAC (410) 676-9030 if you would like further information on a CBIAC TAT. In order for us to help you most efficiently, please furnish the Government contract number you are working on (if any), the reason(s) you want the information, and your company address and phone number. We need this information in order to obtain release of information from the TAT sponsor.

Completed:

Task	Description/Sponsor
33	Evaluate the Filtration Capability of the ERDEC Chemical Agent Test Chamber USA/ERDEC
36	Evaluate the Filtration Efficiency of HEPA Filters Against a Bioaerosol Challenge USA/ERDEC
40	Evaluate the ERDEC Respirator Protection Factor Aerosol Distribution Systems and Recommend a Design for its Improvement USA/ERDEC
61	Analyze, Extract and Compile Information on Human Exposure to Chemical Agents OSD/Defense Manpower Data Center
64	Prepare a Guidebook of Performance Standards for the Operation of a Commercial RDT&E Surety Laboratory USA/ERDEC
69	Review and Document Information Related to R&D with EA 4923 USA/ERDEC
73	Evaluate and Validate Procedures for CW Material Analysis for Treaty Verification Inspections USA/CBDCOM
75	Evaluate the MEDTAG III Concept Device DOD Health Organization
82	Evaluate the Suitability of Transporting Dilute Chemical Agent IAW DOT Commercial Toxic Material Regulations USA/ERDEC
86	Assess USAF Chemical Ensemble Requirements, Procedures and Systems USAF/HSC
109	Evaluate the Coinjecting of Silicone with Organic Elastomers for Use with RESPO 21 Masks. USA/ERDEC

Underway:

See "Ongoing and Recent Activities"
Continued on Page 7



CALENDAR OF EVENTS

The CBIAC highlights conferences, symposia, meetings, exhibitions and workshops of interest to the CB community in every issue of our newsletter. We invite CBIAC users to submit information on various events to the attention of Elizabeth L. Hamm. She may be reached at the address, phone and fax numbers on the back page of this newsletter, or via the internet: hamme@battelle.org. Due to space limitations, the CBIAC will accept submissions on a first-come, first-served basis and reserves the right to reject submissions.

1996 MEETINGS

Date/Name/Location	Contact(s)
Jul 30, 1996	
The Post Engagement Ground Effects Model (PEGEM) MEVATEC Corporation Huntsville, AL	MEVATEC Corporation Attn: Bill Moore 1525 Perimeter Parkway, Suite 500 Huntsville, AL 35806 Tel: (205) 890-8000 E-Mail: bill_moore@mevatec.com
Aug 7-8, 1996	
Symposuim and Workshop: ISO 9000, ISO 14000 Contractor PerformanceCertification Program (CP)^2:" Making It Work for You" Edgewood Area Conference Center Seminar Building Aberdeen Proving Grounds, MD	U.S. Army Chemical and Biological Defense Command (CBDCOM) Attn: AMSCB-QAQ, (Ms Dodie Hertzog) Bldg. E5101, Room 206 APG, MD 21010-5423 Tel: (410) 671-2441 Fax: (410) 671-8493
Aug 19-22, 1996	
Joint Service Pollution Prevention Henry B. Conzalez Convention Center San Antonio, TX	American Defense Preparedness Association (ADPA) 2101 Wilson Blvd., Suite 400 Arlington, VA 22201-3061 Tel: (703) 522-1820 Fax: (703) 522-1885
Aug 29-30, 1996	
Night Vision '96 Royal Lancaster Hotel London, UNITED KINGDOM	Shephard Conferences Attn: Kate Niven 111 High Street Burnham, Bucks SL1 7JZ United Kingdom Tel: 44 1628 604764 Fax: 44 1628 664075
Sept 9-12, 1996	
3rd Scientific and Technical Information (STINFO) Conference and Training Workshops The Williamsburg Woodlands Williamsburg, VA	SIDAC Office c/o STINFO Attn: Edwin Westbrook 5100 Springfield Pike, Suite 110 Dayton, OH 45431-1234 Tel: (513) 254-9902 Fax: (513) 254-9575 E-Mail: westbroe@battelle.org
Sept 9-12, 1996	
Emerging Technologies in Hazardous Waste Management VIII The Sheraton Civic Center Hotel Birmingham, AL	American Chemical Society c/o Meeting Makers P.O. Box 70096 Marietta, GA 30007-0096 Tel: (404) 894-2856 ACS Hotline: (404) 365-2447
Sept 10-12, 1996	
NDI/COTS Support Strategies as a Function of DoD Acquisition Reform Naval Undersea Museum Keyport, WA	Naval Undersea Warfare Center P.O. Box 879 Keyport, WA 98345-0879 Tel: (360) 698-2950 Tel: (360) 692-2108 E-Mail: expo@kpt.nuwc.navy.mil
Sept 10-12, 1996	
TECOM Artificial Intelligence Technology Symposium Kossiakoff Center Johns Hopkins University Applied Physics laboratory Laurel, MD	TRI-S Incorporated Attn: Edward V. Somody or Paula Kueberth 323 South Union Avenue Havre de Grace, MD 21078 Tel: (410) 273-9414 Fax: (410) 273-7470 E-Mail: tris@tris.com
Sept 24-26, 1996	
Combat Vehicles Fort Knox, KY	American Defense Preparedness Association (ADPA) 2101 Wilson Blvd., Suite 400 Arlington, VA 22201-3061 Tel: (703) 522-1820 Fax: (703) 522-1885
Sept 23-27, 1996	
Productive Reuse of Former Military Sites: Environmental and Economic Aspects of Demilitarization: The Third International Technical-Practical Conference Belarus Academy of Sciences Minsk, Republic of Belarus	Author D. Little Inc. Attn: Ms. Janet Smith Acorn Park Cambridge, MA 02140 Tel: (617) 498-5477 Fax: (617) 498-7019 E-Mail: smith.janet@adlittle.com
Sept 27-29, 1996	
Deterring Biological Warfare: What needs to be done? Wiston House Conference Centre Steyning, West Sussex UNITED KINGDOM	Conference Admin. Wilton Park Attn: Ms. Fiona Fung Steyning, West Sussex BN44 3DZ United Kingdom Tel: 44 1903815020 Fax: 44 1903815931

MEETING HIGHLIGHT

DNA's (DSWA) Fifth Annual International Conference on Controlling Arms

The Defense Nuclear Agency, renamed the Defense Special Weapons Agency as of June 26, 1996, held its Fifth Annual International Conference on Controlling Arms in Norfolk, Virgina on 3-6 June 1996.

The keynote address was presented by Major General Gary L. Curtin (USAF), the Director of the Defense Nuclear Agency.

The conference was divided into two plenary sessions, six panels, and a roundtable discussion. The first plenary session was entitled "Interchange Between the Technology and Policy Communities: How Have We Done? Where Can We Do Better?"; and the second plenary session was entitled "Nuclear Testing and a Comprehensive Test Ban: Technical and Security Issues."

Panel 1 focused on implementing arms control agreements and initiatives; Panel 2 covered smuggling and spread of weapons of mass destruction. On the second full day of the conference Panel 3 addressed controlling arms in the far east and Panel 4 addressed technologies and techniques for information management in arms control implementation. Panel 5: Export Control Roles, Problems and Promise and Panel 6: Using Military Means to Control Arms and to Counter Proliferation were presented on the last day.

The roundtable discussion focused on the Fragility of Arms Control at the Current Crossroads: Technical and Policy Remedies. The luncheon speakers were The Honorable Harold P. Smith, Jr., Assistant to the Secretary of Defense (Nuclear and Chemical and Biological Defense Programs) and Colonel General Evgeniy P. Maslin, Chief of Directorate, Ministry of Defense of the Russian Federation. The dinner speaker was The Honorable John M. Deutch, Director of Central Intelligence. Arms control research and development technology was the focus of numerous U.S. government and DoD contractor exhibits which were open to the attendees during the conference.

"Ongoing and Recent Activities"

Continued from Page 5

Task	Description/Sponsor
99	Evaluate the Chemical Agent Resistance of Candidate CARC Replacement Coatings. USMC/ MARCORSYSCOM
128	Develop Moldable Filter Media for the RESPO 21 Exploratory Development Program USA/ERDEC
147	Provide Technical Support to Address Issues Related to the Mission of OASD (NCB) (C/BM) OSD/NCB
148	Evaluate, Analyze and Assess Requirements, Technologies, Systems, Testing Programs, and Documents Associated with the USAF/IPE Program. USAF/HSC
152	Perform a Literature Search and Market Survey to Identify Filtration Media for Respirator Filters. USA/ERDEC
157	Evaluate, Analyze and Assess the Status of the Technical Programs Managed by PM Smoke USA/CBDCOM
170	Develop an Instructional Publication and Video Tape to Provide Training in the Use of Protective Eyewear. USA/NRDEC
171	Evaluate the Findings of the Library of Congress Gray Literature Processing Task DTIC

CBIAC STATISTICS

Total CBIAC documents accessible through DTIC DROLS: 8,009

Shared[1]: 4,776 Unique[2]: 3,233

Total documents added to the CBIAC BD during Third Quarter, FY96: 808

Total document citations available through the CBIAC BD: 46,649

Total documents on site: 25,377

Total inquiries received during Third Quarter, FY96: 158

- Technical: 45
- Informational: 30
- Bibliographic: 76
- Referral: 7

Total TATs awarded since contract initiation: 85

- Completed: 11
- Ongoing: 74

Total newsletter subscribers: 2,276

1 Existing DTIC records appended with CBIAC terms

2 New DTIC records created by the CBIAC

To Place an Ad in CBIAC News...

The CBIAC is now accepting paid advertisements from the chemical and biological defense community. Our general policy is to include ads pertaining to scientific and engineering equipment and services and other commodities generally related to the mission and scope of the CBIAC. All advertisements are subject to approval by our COTR before being printed. If you would like to run an ad, please contact Judith M. Shetterly for additional information on price and policy.

CB NEWS EXCERPTS

In order for the CBIAC to inform its readers of recent Chemical/Biological Defense activity throughout the United States and around the world, we have compiled a list of related CB news articles and have taken excerpts from them to create brief overviews. Please note that the CBIAC does not provide secondary distribution of articles. We can, however, provide direction on where to find an article of interest.

Pennisi, Elizabeth. Chemicals Behind Gulf War Syndrome?, Science, 1996 April 26. A privately funded team of toxicologists and epidemiologists have continued research to find an explanation for the ailments experienced by Gulf War veterans. The study exposed adult chickens to three different chemicals: permethrin and DEET, pesticides which were meant to protect soldiers, and an anti-nerve gas agent pyridostigmine bromide. These compounds were tested individually and in various combinations for neurological toxicity and behavioral effects. The results of the study, conducted by Mohamed Abou-Donia of Duke University Medical Center in Durham, North Carolina, and Robert Haley of Texas Southwestern Medical School in Dallas, Texas, also appear in the May issue of the Journal of Toxicology and Environmental Health.

DeFrank, Joseph J. Bacterial Enzymes for Decontamination of Organo-phosphorus Nerve Agents, The ASA Newsletter, 1996 April 12. The U.S. Edgewood Research, Development and Engineering Center (ERDEC) at Aberdeen Proving Ground, MD, has investigated the use of enzymes for decontamination of chemical warfare (CW) agents since 1946, when the first report of enzymatic hydrolysis of an organofluorophosphate cholinesterase inhibitor was published by Abraham Mazur. Since then, enzymes exhibiting similar properties, referred to as Organophosphorus Acid Anhydrolases (OPAAs), have been identified in a variety of sources from bacteria to humans. A variety of enzymes that exhibit significant activity against the agents sarin, soman and tabun have been harvested from halophilic and marine bacteria, and serve as efficient catalysts for the hydrolysis of agents. Recent research has focused on incorporating these enzymes into a freeze-dried powder which can be mixed with available water and then sprayed on contaminated equipment or incorporated into fire-fighting equipment for use at ports, airbases and depots. Enzymes are inherently non-toxic and environmentally safe, and also exhibit a compatibility with other enzymes, unlike chemical catalysts which are often incompatible with one another.

Fialka, John J. U.S. Cities Prepare to Deal with Terror Attacks, but Drills Point to Weaknesses in Rescue Plans, The Wall Street Journal, 1996 June 3. Serious planning for a response system to chemical and biological terrorism seems to have finally begun. The Federal Bureau of Investigation and Federal Emergency Management Agency, along with other agencies, are completing a report, due out in July 96, which describes for President Clinton the nation's ability to counter terrorist's use of weapons of mass destruction. The report indicates that several federal agencies, especially the Department of Defense, have the training and equipment needed for incidents involving chemical, biological or nuclear materials. Local agencies have been coordinating drills to assess the capabilities of first line respondents such as fire-fighters and police, despite their lack of equipment, training and money. Cities such as New York and Los Angeles have found that an ideal response is actually opposite to their training for any other civil emergency. For instance, hospitals that traditionally open their doors to accommodate as many victim's as possible, found that for chemical and biological casualties, they will need to guard their entrances and decontaminate victims before they can be admitted.

Evers, Stacey. Interview with Barry Horton, US DoD Principal Deputy Assistant Secretary of Defense for C^3I, Jane's Defence Weekly, 1996 April 10. Certain types of information warfare (IW) which were used to help "shorten the conflict, reduce casualties and cut costs" during Operation Desert Storm are prompting a new look at the traditional sense of national security. Horton stated that "some basic ground rules" are needed to draw a line between what is outside the "limits" of IW. For example, if a nation's power grids are taken down, then hospitals will be affected and so will the civilian population of that nation. These and other aspects of IW raise the question of inhumane offensive tactics, even though Horton noted that there will always be those who will disregard the boundaries no matter what "guidelines" are agreed upon. The concept of information warfare also re-defines the national defense responsibility to include the society and the economy of a nation as a whole instead of merely the country's forces and their intelligence or information support.

Bor, Jonathan. Scientists at Fort Detrick Continue Probe of Ebola Virus Found in Texas, The Sun, 1996 April 18. Scientists at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) in Fort Detrick, MD continue their probe into the Ebola virus. The Army and the federal Center for Disease Control and Prevention (CDC) are working together to investigate the spread of the Ebola through the monkey population at a Texas breeding facility. According to Dr. Peter Jahrling, senior scientist at USAMRIICD, the strain being observed is Ebola Reston, which is not dangerous to humans. The institute is one of five in the world capable of studying lethal infections of Biosafety Level Four; those agents for which there are no treatments or vaccines.

General Wilson Leads Army Materiel Command

On March 27, 1996, General Johnnie Wilson assumed command of the U.S. Army Materiel Command (AMC) at a Change of Command and Retirement Ceremony held at Fort Meyers, Virginia, as his predecessor, General Leon E. Salomon retired after 37 years of service to the U.S. Army. Hosted by General Dennis Reimer, U.S. Army Chief of Staff, the ceremony included performances by The 3rd United States Infantry (the Old Guard) and The United States Army Band (Pershings Own). Both General Wilson and General Salomon are credited with an impressive list of accomplishments during each of their military careers.

As the Commanding General of AMC, General Wilson now oversees the research, development and acquisition of modern equipment and logistics used throughout the Army, as well as the delivery systems used to get equipment and supplies to the troops. He also manages the command in developing, testing, and applying new technology to weapons systems used in the Army and in other branches of the military. Prior to assuming command of AMC, General Wilson served as the Army's Deputy Chief of Staff for Logistics in Washington D.C. He received his fourth star the day before the Change of Command ceremony. Thus far in his career, he has received numerous decorations, including the Distinguished Service Medal, the Legion of Merit, the Bronze Star (with two Oak Leaf Clusters), the Meritorious Service Medal (with two Oak Leaf Clusters), the Army Commendation Medal, and the Vietnam Campaign Medal.

General Salomon became commander of AMC in February, 1994. He directed a restructuring and realignment of AMC to improve efficiency and focus its efforts on supporting its primary customer, the soldier. Established in November, 1994, the Soldier Systems Command (SSCOM) is achieving significant breakthroughs in improving individual soldiers' equipment. General Salomon's commitment to helping soldiers keep the technological edge in future confrontations has been evident. He has advocated integrating new technologies into old, as well as introducing new weapons systems to provide soldiers with the best equipment anywhere in the world as quickly as possible.

Left to right: General Leon Salomon, Outgoing Commander, AMC; General Dennis Reimer, Chief of Staff, U.S. Army; and General Johnnie Wilson, Incoming Commander, AMC, during the Change of Command and Retirement Ceremony held on March 27, 1996 at Fort Meyers, Virginia.

CONTRACT AWARDS

1. Fourteen NBC Analysis Software Systems for Prediction, Warning and Reporting.
   BRUHN New Tech
   Herlev, Denmark
   Undisclosed amount.
   By Royal Netherlands Ministry of Defence

2. Advance System for Worldwide Surveillance of Rickettsial Antibodies.
   Integrated Diagnostics, Inc.
   1756 Sulfur Spring Road
   Baltimore, MD 21227
   $70,000. 14 March 1996
   By Army Medical Research Acquisition Activity

3. Treaty Limited Item Detection, Identification and Tracking.
   Fultron Corp.
   7315 Wisconsin Ave., Suite 900W
   Bethesda, MD 20814
   $297,106. 5 March 1996
   By Defense Nuclear Agency

4. 152 M157A2 Smoke Generator Sets and Accessories.
   Minowitz Manufacturing Co.
   Roseville, MI
   $5.9 million. May 1996
   By US Army Tank Automotive & Armaments Command

5. Chemical Protective Suit.
   Adi Technologies Inc.
   1487 Chain Bridge Rd.,
   Suite 204/205
   McLean, VA 22101
   $1,553,000. 10 June 1996
   By Defense Personnel Support Center

6. Design and Build Portable Systems for Immunoassay of Trace Chemical Compounds, Detection and Identification.
   Research International
   Woodinville, WA 98072
   $497,100. 4 June 1996
   By Office of Naval Research

"Strengthening The Biological Weapons Convention: An Industrial Perspective"

Continued from Page 1

reporting requirement is likely to be problematic. Parties to the Convention that have a large industrial fermentation base will have a difficult time not only identifying but also reporting all such facilities. Furthermore, the ultimate value of such information is questionable. A modestly funded international inspectorate would face a daunting task in assessing the verity of declarations for even a small percentage of the facilities.

A far better approach is to increase efforts undertaken at the Third Review Conference regarding enhancing the confidence building measures through simple national declarations. Secondly, uniform procedures for the conduct of challenge inspections should be developed for those cases of alleged use of BW by one of the parties to the Convention or in cases of unusual outbreak of disease.

Confidence Building Measures

A simplified declaration form that addresses several areas of relevance to the BWC should be prepared and required of all states parties on an annual basis. One model for such a form has already been advanced by the Royal Society of the United Kingdom (Scientific Aspects of Control of Biological Weapons; July 1994). The form requests information on seven areas:

1) high containment facilities (BL-4) and biological defense programs;
2) unusual outbreaks of disease;
3) publications on research and development;
4) promotion of staff contacts;
5) national legislation and regulation;
6) past offensive and defensive programs; and
7) vaccine production facilities.

Three of the above points warrant special comment. Declaration of high containment facilities should be limited to BL-4 facilities. There is too little difference between BL-3 and lesser containment facilities to warrant declaration.

Unusual outbreaks of disease may be an indicator that a party to the Convention is working on offensive BW agents. Many western countries have sophisticated disease surveillance and reporting mechanisms in place. However, developing countries often do not have similar health authorities or the necessary funding to accomplish such reporting. The eradication of infectious disease is a goal that goes beyond national boundaries. Involvement of the World Health Organization may be of assistance here.

Reporting of vaccine production facilities was a confidence building measure adopted at the Third Review Conference. Some vaccine facilities have special containment features or may produce vaccines for military uses. The technical justification for declaring only vaccine facilities is tenuous, but acceptable as a continued confidence building measure. The declaration of other types of facilities will not help determine what facilities are likely to develop and manufacture prohibited agents since there are thousands of potential facilities worldwide and there are no discriminators to determine what facilities would be more likely to produce prohibited substances.

Similarly, routine visits of only vaccine facilities serve little or no purpose in building confidence since there are substantial numbers of other facilities than can produce biological weapons which would not be subject to routine inspections. From a cost versus benefit analysis there is minimal benefit with substantial actual costs and even greater potential proprietary information losses. Routine visits serve no purpose and should not be part of any final verification regime.

Challenge Inspections

Challenge inspections should be conducted only where there is substantial evidence that an offensive biological agent is being produced in a particular facility, in instances of alleged BW use, or unusual outbreaks of disease.

The biotechnology and pharmaceutical industries believe that challenge inspections must be for defined cause. Broad allegations may be difficult if not impossible to disprove and false claims will certainly damage the credibility of the affected company resulting in permanent economic damage.

One way to address this is to establish, within the Inspectorate, a green light filter mechanism for evaluating the potential allegation. A challenge inspection could not take place unless there was an affirmative vote by the states parties represented on the Inspectorate that the allegations warrant an inspection.

Facilities inspections under this regime should be managed by the inspected party. The facility should have the right to determine what is proprietary. Facilities will use reasonable alternative means to address an inspector's request for information, if the facility determines that there is a strong potential for the disclosure of proprietary information.

Focusing attention on improved confidence building measures and an appropriate challenge inspection regime will achieve the goals set out by the Third Review Conference of establishing a stronger Convention. Industry stands ready to provide expertise on numerous matters with the insistence that proprietary information be afforded the necessary protection.

Al Holmberg works for a major U.S. pharmaceutical company and has 25 years of experience in the development and manufacture of pharmaceutical products.

Alan Goldhammer is Director of Technical Affairs at the Biotechnology Industry Organization (BIO). He coordinates all of the association's regulatory and scientific activities.

SELECTED TECHNICAL RESPONSES

This section of the newsletter contains recent technical inquiries and responses on subjects we feel are of interest to our users. The information presented has been edited to conserve space. If you would like further detail, please contact Steven Jones at the CBIAC and reference the number indicated in parentheses.

Q: What chemical and biological (CB) defense information sites are available on the World Wide Web (WWW)?

A: The following websites appear as links on the CBIAC home page, and are good starting points for accessing CB information on the WWW:

- U.S. Army Chemical and Biological Defense Command (USACBDCOM): http://www.cbdcom.apgea.army.mil
- The CBDCOM Edgewood Enterprise: http://www.cbdcom.apgea.army.mil/RDA/
- Edgewood Research Development and Engineering Center (ERDEC) Safety Office: http://www.cbdcom.army.mil/RDA/ erdec/risk/safety
- The Provisional Technical Secretariat (PTS) of the Preparatory Commission (PrepCom) for the Organisation for the Prohibition of Chemical Weapons (OPCW): http://www.opcw.nl/
- Chemical Warfare Agents: http://www.opcw.nl/chemhaz/cwagents.htm
- Harvard-Sussex Program (HSP) on CBW Armament and Arms Limitation: http://fas-www.harvard.edu/~hsp/
- The U.S. House of Representatives Internet Law Library Treaties and International Law: http://www.pls.com:8001/his/89.htm
- Stockholm International Peace Research Institute (SIPRI): http://www.sipri.se/index.html
- Chemical and Biological Arms Control Institute (CBACI): http://haven.ios.com/~cbaci
- American Defense Preparedness Association (ADPA): http://www.adpa.org/
- Calspan SRL Corporation: http://www.calspansrl.com/
- Battelle's National Security Division: http://www.battelle.org/natsec/natsec.html

The CBIAC is currently compiling a directory of CB sites accessible on the World Wide Web (WWW). See our PRODUCTS LIST for details.

Q: Who should be contacted in the event of a chemical spill? (Ref: 96-0456)

A: The Chemical Manufacturer's Association maintains a database called CHEMTREC, which is strictly an information resource for use in emergency type situations when the identity of the chemical is unknown. Their non-emergency number is (202) 887-1100. The emergency number for CHEMTREC is (800) 424-9300.

The federal agency to contact when hazardous substances are spilled is the National Response Center located in Washington D.C. Their number is (800) 424-8802. However, local governments should be contacted first; the federal level agency is only contacted if the spill meets certain criteria.

Q: Where can information be found describing negligible risk values from NBC contaminants to unprotected personnel working inside, on or within very close range of equipment or materiel which has been exposed to liquid or vapor NBC contaminants?

A: QSTAG 747, Ed 1 - NBCD Contamination Survivability Criteria for Military Equipment provides this information for individuals that may be on, in or within one meter of military equipment that has been exposed to NBC contaminants.

Edgewood Enterprise Reaches to Russia

In Saratov, Russia, members of the U.S. CBDCOM Treaty Verification Office, Environmental Quality Office, Health Services Office, and Safety Office visited and evaluated a laboratory which now has been redesigned for chemical agent demilitarization operations. The work began in March 1995 and the laboratory was operational by last October. The overall goal of the project was to provide a safe and healthy laboratory for treaty on-site analysis; the completed lab underwent experiments and passed the tests with flying colors! Renovations to the former training center for Russian military officers included tearing out existing facilities and replacing the floors, installing new ventilation systems, fume hoods, air monitoring equipment, analytical equipment and a complete rewiring of the electrical system. The project was part of the Bilateral Chemical Weapons Treaty between Russia and the United States.

For a more complete story, see Issue No. 7 of the Edgewood Quarterly or visit http://www. cbdcom.apgea.army.mil/RDA/ erdec/quarterly/issue7/smoke.html

NEW FEATURES ON THE CBIAC HOMEPAGE

- Guest Book
- User Survey
  - You may now make your request to be added to the CBIAC newsletter mailing list from this site!

The CBIAC NEWSLETTER is a quarterly publication of the Chemical Warfare/Chemical and Biological Defense Information Analysis Center (CBIAC). The CBIAC is a Department of Defense (DoD) Information Analysis Center (IAC), administratively managed by the Defense Technical Information Center (DTIC) under the DoD IAC Program. The Contracting Officer's Technical Representative is Mr. Joseph Williams. He may be reached at:

Technical Director, ERDEC
Attn: SCBRD-RTA (Joseph Williams)
APG-EA, MD 21010-5423
Tel: (410) 671-4878 Fax: (410) 671-2649
DSN: 584-4878
Internet: jdwillia@apgea.army.mil.

Government agencies and private industry under contract to the Department of Defense can contact the CBIAC which serves as a center for the acquisition, compilation, analysis and dissemination of information relevant to chemical warfare and chemical and biological defense technology. The CBIAC staff is available to answer questions from 7:00 a.m. to 5:00 p.m, EST.

The CBIAC is located in Building E3330, Aberdeen Proving Ground-Edgewood Area, Maryland 21010.

The CBIAC mailing address is shown below:

CBIAC
P.O. Box 196
Gunpowder Branch APG, MD 21010-0196
Tel: (410) 676-9030 Fax: (410) 676-9703

CBIAC STAFF

Fran T. Crimmins (crimmins@ battelle.org)	Director and Manager, Technical Area Tasks (TATs)
Nancy R. Brletich (brleticn@battelle.org)	Deputy Director and Manager,Core Program
Donald B. McGonigle (mcgonigl@battelle.org)	Manager, Information Support Systems
Jeanne M. Rosser (rosserj@battelle.org)	Manager, Information Collection and Processing
Steven A. Jones (joness@battelle.org)	Manager, Inquiry and Referral Service
Mary Jo Waters (watersm@battelle.org)	Newsletter Editor
Judith M. Shetterly (shetterj@battelle.org)	Newsletter Circulation

NEWSLETTER STAFF

Nancy R. Brletich	Advisor, Product Announcements
Fran T. Crimmins	Advisor, TAT Focus
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Steven A. Jones	Selected Technical Responses
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CBIAC
P.O. Box 196
Gunpowder Branch APG, MD 21010-0196

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